

[54] FLEXIBLE PRINTED CIRCUIT ASSEMBLY
WITH TORSIONALLY ROTATED
CONDUCTORS

[75] Inventors: Ralph W. Kinser, Jr.; David L. Shriver; Judith A. Layman, all of Corvallis, Oreg.

[73] Assignee: Hewlett-Packard Company, Palo Alto, Calif.

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361/398, 408; 439/31, 165

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Primary Examiner—Morris H. Nimmo

Attorney, Agent, or Firm—Edward L. Miller

[57] ABSTRACT

Conductors of a flexible printed circuit routed through a hollow two axis articulated hinge allow a calculator with rotating case halves to possess a keyboard portion in each half of the case. The conductors routed through the hollow articulated hinge are generally centered about one axis of hinge rotation for approximately half the length of the axis, whereupon they transition by either a U-turn or a jog to continue as centered about the other axis of hinge rotation. The conductors may be an integral part of a flexible membrane keyboard assembly having portions located in both halves of the calculator's case. Strain reliefs at the locations where the conductors traverse the case halves, and two in the hinge, at about the center thereof, limit and apportion the torsional flexing experienced by the conductors. The torsional flexing experienced by the flexible conductors increases the number of cycles of rotation they can undergo without breaking, as compared to conventional bending. The hollow articulated hinge allows one case half to rotate one full revolution about the other, so that the calculator can be opened and held in one hand. By being within the hollow hinge the conductors are protected from injury.

7 Claims, 8 Drawing Sheets

